

**Illnesses and Injuries Reported by California Physicians¹ Associated With²
Pesticide Exposure Summarized by Pesticide(s) and Type of Illness
2008**

Pesticide ³	Systemic/ Respiratory ⁴		Topical ⁴		TOTAL	
	Definite/ Probable	Possible	Definite/ Probable	Possible	Definite/ Probable	Possible
Organophosphates						
Bensulide	10	1	0	0	10	1
Chlorpyrifos	4	3	1	0	5	3
Diazinon	3	1	0	0	3	1
Dimethoate	0	1	0	0	0	1
Malathion	40	6	2	0	42	6
N-Methyl Carbamates						
Carbaryl	1	0	0	0	1	0
Methomyl	1	0	0	0	1	0
Propoxur	1	0	0	0	1	0
Pyrethrins and Pyrethroids						
Beta-Cyfluthrin	1	0	0	2	1	2
Bifenthrin	1	6	0	0	1	6
Cyfluthrin	0	3	0	0	0	3
Cypermethrin	7	2	1	0	8	2
Deltamethrin	1	1	0	0	1	1
Esfenvalerate	1	0	2	0	3	0
Gamma-Cyhalothrin	1	0	0	1	1	1
Lambda-Cyhalothrin	5	5	3	1	8	6
Permethrin	5	2	0	0	5	2
Resmethrin	1	0	0	0	1	0
Tralomethrin	1	1	0	0	1	1
Other Pesticides						
2,4-D	0	1	0	0	0	1
Adjuvant	1	0	1	0	2	0
Boric Acid	2	1	0	0	2	1
Bromethalin	0	1	0	0	0	1
Calcium Hypochlorite	4	1	1	0	5	1
Chlorine	4	0	0	0	4	0
Chlorothalonil	0	0	1	0	1	0
Copper Ammonium Complex	0	0	1	0	1	0
Copper Naphthenate	0	1	0	1	0	2
Copper Sulfate	0	1	0	0	0	1
Cyanuric Acid	7	1	7	1	14	2

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Pesticide ³	Systemic/ Respiratory ⁴		Topical ⁴		TOTAL	
	Definite/ Probable	Possible	Definite/ Probable	Possible	Definite/ Probable	Possible
Deet	0	1	2	0	2	1
Diphacinone	1	1	0	0	1	1
Diquat	1	1	0	0	1	1
Ethylene Dichloride	0	1	0	0	0	1
Fenbutatin-oxide	1	0	0	0	1	0
Fipronil	0	1	0	0	0	1
Glufosinate-Ammonium	0	1	0	0	0	1
Glutaraldehyde	3	1	3	0	6	1
Glyphosate	3	4	8	5	11	9
Halogenated Hydantoin	0	1	0	0	0	1
Hydrogen Chloride	3	0	5	0	8	0
Imidacloprid	0	0	1	0	1	0
Indoxacarb	0	1	0	0	0	1
Isopropyl Alcohol	0	0	1	0	1	0
Lime-sulfur	0	0	1	0	1	0
Magnesium Chloride	0	0	1	0	1	0
Metaldehyde	0	1	0	0	0	1
Metam-sodium	17	0	8	0	25	0
Neem Oil	0	0	1	1	1	1
Peroxyacetic Acid	1	0	1	0	2	0
Phenolic Disinfectants	0	0	0	1	0	1
Phosphine	2	0	0	0	2	0
Pine Oil	3	1	2	0	5	1
Prometon	1	0	0	0	1	0
Quaternary Ammonia	10	6	32	4	42	10
Rimsulfuron	0	1	0	0	0	1
Sodium Hypochlorite	42	12	45	3	87	15
Spinosad	0	0	1	0	1	0
Strychnine	1	2	0	0	1	2
Sulfur	6	8	3	1	9	9
Sulfuryl Fluoride	7	12	0	1	7	13
Triclopyr	1	0	0	0	1	0
Trifloxystrobin	0	1	0	0	0	1
Trinexapac-ethyl	0	0	1	0	1	0
Zinc Naphthenate	1	0	0	0	1	0
Zinc Phosphide	1	0	0	0	1	0
Combinations of Antimicrobials	49	1	21	4	70	5
Combinations of Fumigants	10	2	2	0	12	2
Combinations of Fungicides	1	3	0	2	1	5

Pesticide ³	Systemic/ Respiratory ⁴		Topical ⁴		TOTAL	
	Definite/ Probable	Possible	Definite/ Probable	Possible	Definite/ Probable	Possible
Combinations of Herbicides	6	1	5	2	11	3
Combinations of Insecticides Including ChE Inhibitor(s)	10	6	1	1	11	7
Combinations of Insecticides Without ChE Inhibitor(s)	44	32	10	3	54	35
Miscellaneous Combinations	107	41	3	3	110	44
Unknown Antimicrobials	7	1	3	1	10	2
Unknown Herbicides	0	1	0	0	0	1
Unknown Insecticides	16	16	6	2	22	18
Unknown Pesticides	3	5	2	1	5	6
TOTAL	460	205	189	41	649	246

¹ **Source:** California Department of Pesticide Regulation, Pesticide Illness Surveillance Program.

² **Associated With:** Includes cases classified as definitely, probably or possibly related to pesticide exposure

Definite : High degree of correlation between pattern of exposure and resulting symptomatology. Requires both medical evidence (such as measured cholinesterase inhibition, positive allergy tests, characteristic signs observed by medical professional) and physical evidence of exposure (environmental and/or biological samples, exposure history) to support the conclusions.

Probable : Relatively high degree of correlation exists between the pattern of exposure and the resulting symptomatology. Either medical or physical evidence is inconclusive or unavailable.

Possible : Health effects correspond generally to the reported exposure, but evidence is not available to support a relationship.

³ **Type of Pesticide:** Pesticides listed on this table are grouped according to frequent inquiries received by DPR. Other pesticides are then listed in alphabetical order.

⁴ **Type of Illness:** Categorization of the type of symptoms experienced.

Systemic : Any health effects not limited to the skin and/or eye. Cases involving multiple illness symptom types including systemic symptoms are included in the systemic category.

Respiratory : Health effects involving any part of the respiratory tree.

Topical : Health effects involving only the eyes and/or skin. This excludes outward physical signs (miosis and lacrimation) related to effects on internal bodily systems. These signs are classified under 'Systemic.'

Whom to Contact:

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About the Pesticide Illness Surveillance Program Data

Pesticide-related illnesses have been tracked within the state of California for more than 50 years. The California Environmental Protection Agency, Department of Pesticide Regulation (DPR) maintains a surveillance program which records human health effects of pesticide exposure. The Pesticide Illness Surveillance Program (PISP) documents information on adverse effects from pesticide products, whether elicited by the active ingredients, inert ingredients, impurities, or breakdown products. This program maintains a database, which is utilized for evaluating the circumstances of pesticide exposures resulting in illness. This database is consulted regularly by staff who evaluate(s) the effectiveness of the DPR pesticide safety programs and recommend changes when appropriate.